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INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT
INTERNATIONAL DEVELOPMENT ASSOCIATION

SCHOOL CONSTRUCTION AND EQUIPMENT PROJECT
TANGANYIKA

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November 26, 1963

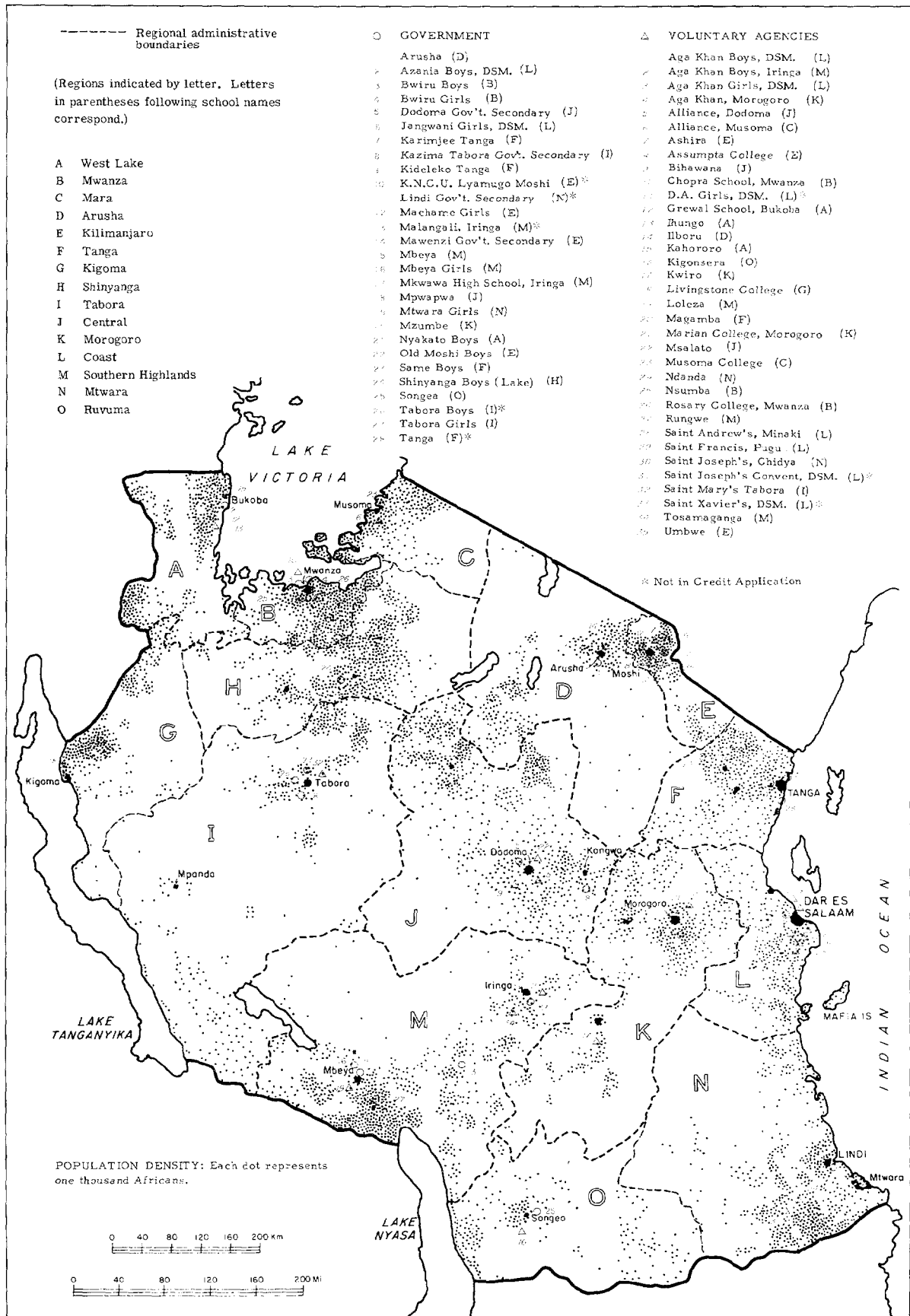
CURRENCY EQUIVALENTS

100 EA Cents	= 1 EA Shilling = U.S. \$0.14
20 EA Shillings	= £ 1 Sterling = U.S. \$2.80
£ 1 Million Sterling	= U.S. \$2.8 Million
U.S. \$	= EA Shillings 7.15
U.S. \$1 Million	= £ 357,143

TANGANYIKA

DISTRIBUTION OF SECONDARY SCHOOLS

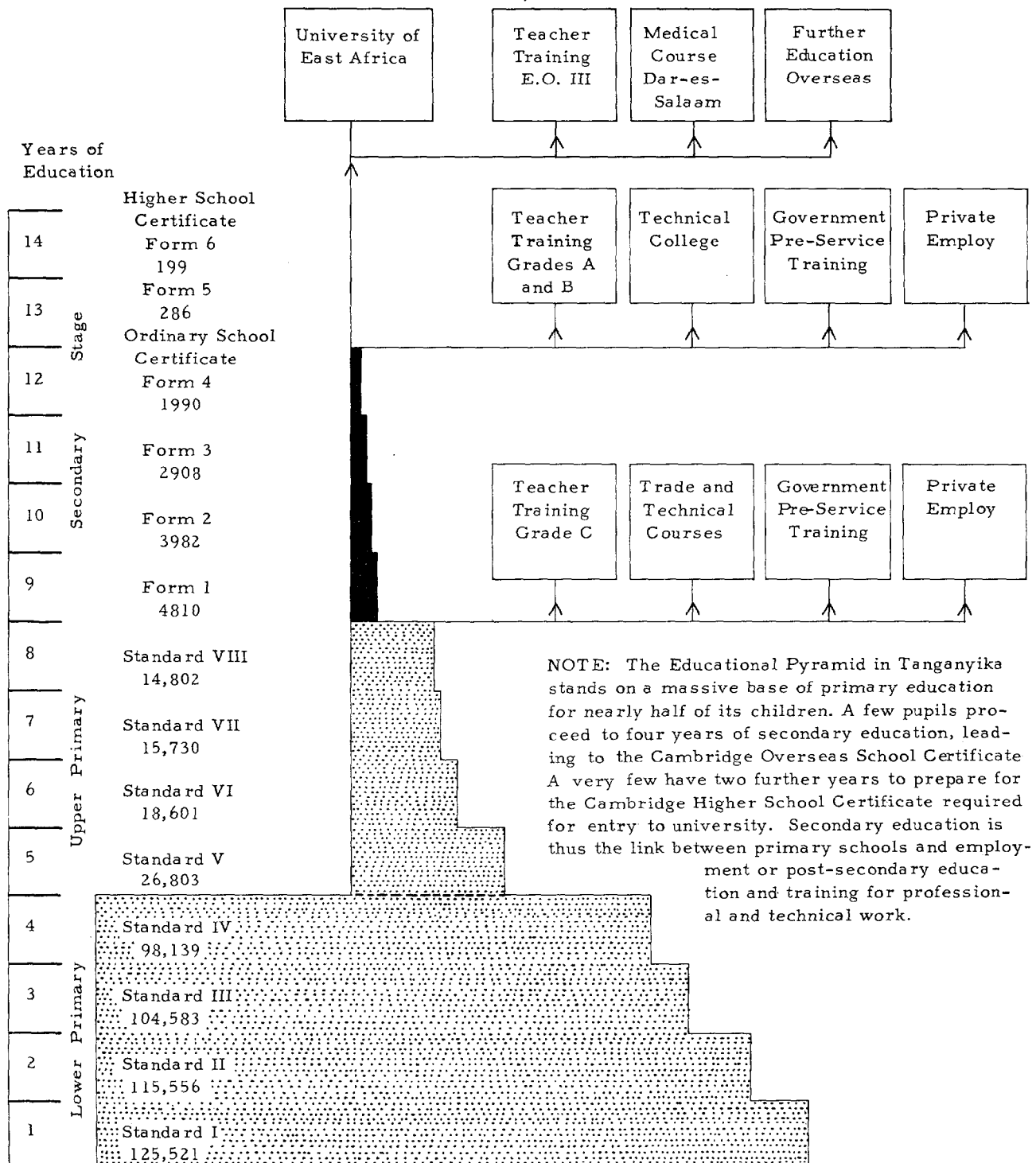
GOVERNMENT AND VOLUNTARY AGENCY



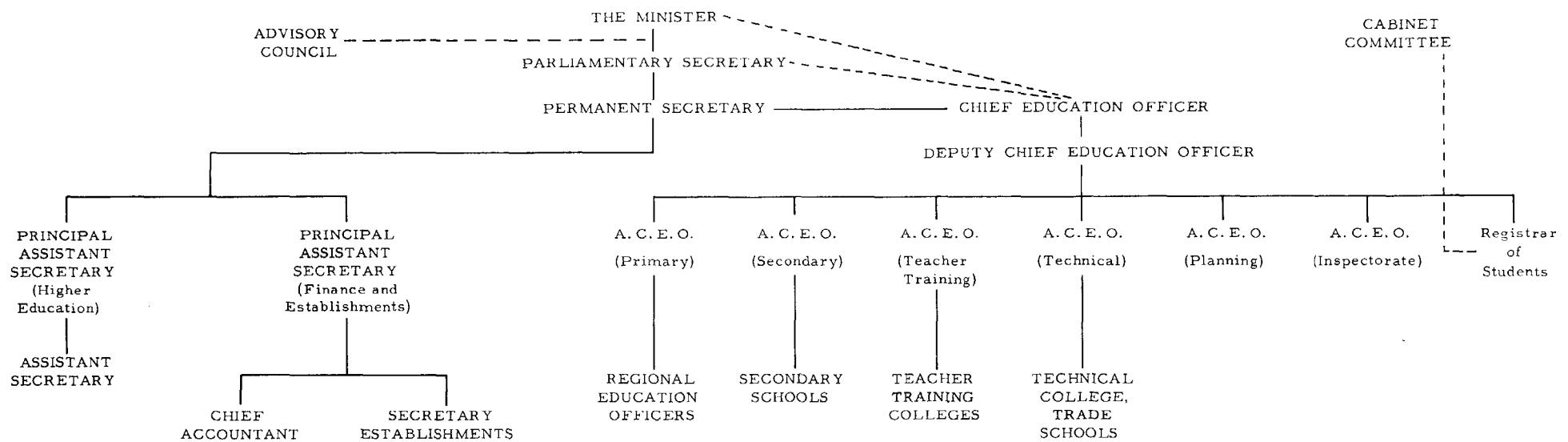
TANGANYIKA

EDUCATIONAL PYRAMID

January 1962



TANGANYIKA
MINISTRY OF EDUCATION



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TANGANYIKA

SCHOOL PROJECTION AND EQUIPMENT PROJECT

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SUMMARY

i. In March 1962, the Government of the Republic of Tanganyika requested IDA assistance for an education program including secondary and higher education. This request was confined in November 1962 to a project for the expansion of secondary education, with estimated cost of about £ 1.4 million (\$3.92 million) to assist in constructing and equipping schools. An appraisal mission visited Tanganyika in May and June 1963. The mission examined the proposed secondary school expansion within the framework of the whole education system. The mission concluded that it was at the secondary level that expansion was most urgent and assistance most justified.

ii. Last year in all of Tanganyika, a land of 9.5 million people, there were places for fewer than 2,000 students in the fourth year of secondary school. In the entire secondary school system, there were only 15,640 students able to be enrolled. Only 2.4% of the children of the age group appropriate to enter secondary school could be admitted. The graduating class represented only .25% of Tanganyika's children of secondary school age.

iii. While 98% of the population of Tanganyika are African, only 55% of secondary school students are African because relatively fewer Africans live in the urban centers, which are relatively better served by secondary schools. Similarly, the vast majority of executive, administrative, professional and technological jobs in the country are filled with Europeans and Asians, because trained Africans simply are not available. Additional jobs, and opportunities for further education and training, await Africans who complete the secondary education necessary to fill those places.

iv. To bring the situation into closer balance, to begin to develop a labor force to carry on Tanganyika's government and business, the government has developed a secondary school expansion program of highest priority which, while relatively modest, will result in creating 6,845 additional places for secondary school students by 1968. It is a program that can be supported by the government's revenue capacity, ability to obtain teachers and ability to operate efficiently.

v. The curriculum and teaching programs are such that the graduates fit well into the jobs to be filled and into higher education opportunities. Everything considered, the secondary school system is following sound educational practices, and is moving toward further improvements through training, research and development activities.

vi. The government's plan provides for building two new schools, one in an isolated area unserved by secondary schools, and the other to replace three temporary, inadequate structures. In addition, expansions are being undertaken for 53 present schools. The decision to expand present

ii.

schools, rather than to construct new schools, was taken in order to save building costs, to economize overhead and administrative staff and costs, and to save time.

vii. Thirty-two of the schools being expanded are operated by voluntary agencies--(church organizations under complete control of the government for educational standards and purposes, for the schools of which the government pays operating costs). These organizations, many of which have been providing educational services in Tanganyika for many years, provide valuable administrative experience and management not easily to be duplicated.

viii. The bulk of the additional places to be provided are in boarding schools. It is necessary to provide boarding facilities, because the country is so thinly settled and little urbanized that African children cannot be reached satisfactorily by secondary day schools

ix. Capital costs for the expansion are estimated at £ 1,950,000 (\$5.46 million) plus a contingency allowance of £ 200,000 (\$0.56 million) to take care of unanticipated price increases during the course of construction.

x. The project is suitable for an IDA credit of £ 1,650,000 (\$4.62 million).

I. INTRODUCTION

Request to Bank/IDA

1. The Tanganyika government has requested the Association to finance part of the capital cost of an expansion of the secondary school system from 1962 to 1967 with the object of increasing the secondary school enrollment from the present figure of about 15,600 to 22,500, and of increasing the number of pupils who complete the whole four-year secondary course from about 2,000 to about 5,500. The estimated cost of the capital investment in this expansion is £2,150,000 (\$6,020,000).
2. The government originally approached a Bank mission which was in Tanganyika in March 1962 with a more extensive program costing more than £3 million, which included about £1.8 million for university expansion, which had not at that time been planned. This request was modified as a result of discussions in September 1962, in which the government was asked to identify its highest priority educational projects. A revised project was submitted in November 1962, confined to secondary school expansion with estimated cost of about £1.4 million.
3. This request was investigated by an IDA mission which visited Tanganyika in May and June 1963. The mission found that the project as submitted would have left a number of schools incompletely equipped to carry their pupils through the full four-year secondary cycle. The government, which had already realized this fact, then modified its request in order to cover these gaps.
4. This appraisal report is based on a number of studies made of Tanganyika's educational system, including one by Unesco, on information provided by the government, and upon the findings of the IDA mission.
5. The report that follows provides a background of the demographic and economic features of Tanganyika, describes the education system in being, examines the need for expanding the secondary school system, analyzes the results to be achieved by the proposed project, discusses the cost and adequacy of the proposed expansion program, and concludes that the proposed project forms a suitable basis for IDA financing.

II. BACKGROUND

6. Tanganyika, with some 9.5 million people, is a vast empty land, as big as France plus Germany, or Venezuela, or Texas plus Colorado, ranging from the highlands of Kilimanjaro to a more than 600-mile coastline, with climatic and soil conditions varying from temperate to tropical, lush to barren. The size of Pakistan, it has one-tenth the population, averaging only 25.8 per square mile. It is 95.9% rural--its largest city has only 140,000 persons--and herein lies one of the basic problems of bringing secondary education to the Africans. Fifteen primary schools are required to feed one secondary school; there are only a handful of communities

which can support fifteen primary schools in a commuting area. Most secondary schools have to provide boarding facilities to serve the scattered African population.

7. Tanganyika is a country of relatively low birth rate, coupled with a death rate such that population growth appears to have amounted for a number of years to less than 2% per year. The average Tanganyikan consumes probably less than 1,800 calories per day (1,950 in India) which, coupled with a hazardous climate and a variety of tropical diseases, gives a life expectancy at birth of only 35 years. The African social structure even today is basically tribal—an estimated 120 tribes of Bantu, Nilotic and Hamitic origin still observe tribal languages, loyalties, and marriage lines. In more cultivated tribes, cooperative effort in economic development is well advanced on tribal lines. Boarding schools are regarded as an important cohesive and nationalizing force.

8. In 1957, the date of the latest census, only 16.8% of the entire African male population and 6.3% of the female population had ever attended school, and fewer than 0.1% had known secondary schooling. The non-African is substantially better educated.

9. Tanganyika was opened for development by Germany near the close of the last century. After World War I, the country was placed under a British mandate by the League of Nations. The educational system which they introduced into the country was essentially based on British practices.

10. A single political party, the Tanganyika African National Union, is in control of the government, under a unicameral presidential form. TANU is more than simply a political party; through a network of local offices it engages in educational, welfare and social protective services.

11. Tanganyika is among the less developed, even of African, countries. The per capita GDP is about £20 (US\$56) per year, of which 40% is subsistence income that does not pass through the market. Industrial development has only begun; manufacture contributes only £8 million to the GDP. A combination of drought and other factors in 1961 held the GDP at approximately the 1960 level but 1962 preliminary estimates indicate that the GDP has risen from £188,000,000 to £203,000,000 or about 8%. Fifty-five per cent of the GDP is contributed by agriculture, livestock and forest products. Future growth of Tanganyika will probably come from further expansions in these sectors, coupled with processing of agricultural products. Tanganyika's main economic development objectives, stated in the "Development Plan" for the period ending June 30, 1964, are (i) further development and improvement of agriculture together with water supply and irrigation; (ii) improve-

ment and development of communications; and (iii) development of secondary education which is regarded both as an objective of economic development and as an engine to drive the country toward economic development. A comprehensive review of the country's economy and of its development plans and prospects will be found in the Bank's "Current Economic Position and Prospects of Tanganyika", AF 13 a, November 29, 1963.

12. A number of governments, foundations and church groups are assisting Tanganyika in expanding and improving its educational system. Such assistance includes capital grants, technical assistance for research in curriculum, teaching methods and teacher training, recruitment and pay supplementation for expatriate teachers, preparation and distribution of teaching materials, etc. The donors include the governments of the U.K., U.S., Federal Republic of Germany, Canada, Australia, the countries of the Nordic Council, Israel, the Ford, Rockefeller and Nuffield foundations, U.N., Unesco, WHO, ILO, FAO, and others.

III. THE EDUCATION SYSTEM

Organization and Administration

13. The Minister of Education is responsible for primary, secondary and technical education, whether provided by government, voluntary agencies or private schools. He regulates registration of schools, syllabuses, fees, and conditions of admission, appoints Boards of Governors, inspects schools and approves examinations. His principal headquarters staff includes the Permanent Secretary as chief administrative officer responsible for operations, budget, and direction of the staff; and the Chief Education Officer (C.E.O.) assisted by a Deputy Chief Education Officer and six Assistant Chief Education Officers (A.C.E.O.) responsible for primary, secondary, and technical education, teacher training, planning and the inspectorate.

14. The Permanent Secretary maintains close liaison with the Treasury which examines the estimates submitted by the Ministry of Education and allocates the funds for education. Every fiscal step from budget estimating through accounting for expenditures is under the almost-daily inspection of Treasury. Local Education Authorities prepare their own estimates which are passed to the Ministry via the Regional Education Officer. Boards

of Governors prepare the annual estimates for secondary schools and teacher training institutions. These figures are reviewed, adjusted and combined to form the annual Ministry estimates for submission to Treasury.

15. The post of A.C.E.O. (Technical Education) has been regrettably vacant for two years. Unesco has been recruiting for the post, with an offer to supplement from its resources the basic Tanganyika pay scale. The Ministry and its inspectors directly supervise secondary schools. Ultimately, as they become more experienced, Regional Education Officers may be given local supervision of secondary schools but are at present responsible to the Ministry for primary schools only.

16. The three-man planning unit of the Ministry is responsible for statistical collection and analysis, long-range educational development planning, correlating enrollment projections with school building, teacher training programs, financing, and collaboration with Ministry of Development Planning.

17. The administration depends in part upon expatriate personnel in the higher grade, technical, and executive brackets. They are competent people who should be able to execute the secondary school expansion program and to supervise and continue to improve the educational system. Early fears that expatriate personnel would be dismissed before competent Africans could take their places have largely subsided and it now appears to be the intention of government to make efforts to retain technical expatriate personnel for the near term.

Planning

18. Coordinating Tanganyika's economic and human resources development plans and programs (which include those of the Education Ministry) is the responsibility of the new Ministry of Development Planning. Previously a Development Planning Commission composed of cabinet officers, including Education, without secretariat, had met from time to time to consider ad hoc various questions of economic development.

19. The Ministry of Development Planning expects ultimately to assume certain financial and economic forecasting responsibilities hitherto vested in the Treasury. It may also review budget, foreign exchange, foreign aid and technical assistance. In the meantime, Treasury is continuing its role of economic forecasting and budgeting and is deeply involved in planning of all Ministries. Central statistical services remain in Treasury, as well as financial and technical assistance relationships with other governments, the U.N., foundations, etc.

20. The preoccupation of the Ministry of Planning is in the creation of an inter-industry grid and the projection of "desirable" economic and social targets to 1980.

Simultaneously, the Ministry hopes to develop a Five Year Plan, to be unveiled in the spring of 1964, to provide a capital expansion program for both the public and private sectors, with sectoral requirements for some fifteen areas including manpower and education. In the meantime, the several Ministries are proceeding with their current and near-term programs.

21. The Planning Ministry is to serve as the focal point to which educational, recruitment, labor force organization, wage policy, manpower utilization and distribution, and related questions will be referred, and where representatives of school and university, government, cooperative movements, labour unions and the business community can come together to plan and take action on human resources development questions. A program of action in the human resources development field was spelled out in the "High Level Manpower Requirements and Resources Survey" adopted and published by government in March, 1963.

Voluntary Agencies

22. Since earliest times religious missions have played an important role in the social and educational development of Tanganyika.^{1/} The voluntary agencies consist of the Roman Catholic Tanganyika Episcopal Conference, the Protestant Tanganyika Council of Churches, the Aga Khan Foundation Ismaili group, district councils and others who, under the close supervision and control of the Ministry of Education, at present provide nearly 70% of the primary school places, 55% of the secondary school places and 19 out of 22 teacher training institutions. Their educational programs are entirely compatible with government schools in all respects; they are financed by government in the same way as government schools and their staffs are fully integrated with government teachers in a unified teaching service.

Primary Schools

23. About half the children of school entry age actually enter primary schools. About 45% finish the first four years of primary schooling, and after an examination about one-third of these enter the second four-year cycle. About half of those who enter finish the second four years. There is a shortage of teachers, and many of the existing teachers are under-qualified. Of those pupils who have completed the full eight-year course, only about one-third can find places in secondary schools, and this is not more than 2.5% of the relevant age group. More details on the primary school system are given in Annex 1.

^{1/} 17% of the African population is Roman Catholic; 8% Protestant; and 30% Moslem.

Secondary Schools

24. The following table, showing the number of full-time students as a percentage of the country's total population for the age-group 15-19 years (corresponding to Forms 1-4) indicates the relative position in Tanganyika in secondary school enrollment. 1/

<u>Country</u>	<u>Pop. 15 - 19 (000)</u>	<u>Year</u>	<u>2/ Net Enrollment</u>	<u>Year</u>	<u>Percentage Enrollment of School Age Population</u>
Austria	538	1955-57	41,000	1957-58	7.6%
France	2,731	1955-57	573,000	1957-58	21.0%
West Germany and W. Berlin	4,670	1955-57	800,000	1957-58	17.1%
Italy	4,103	1955-56	192,400	1956-57	4.7%
Netherlands	832	1955-56	153,641	1957-58	18.5%
Portugal	778	1955-57	35,556	1957-58	4.6%
Turkey	2,406	1955-57	117,240	1957-58	4.9%
Yugoslavia	1,656	1955-57	80,761	1957-58	4.9%
Tanganyika	1,760	1957	9,883	1957	0.56%
Tanganyika	1,900	1962	13,690	1962	0.72%

25. The secondary schools in Tanganyika follow the British system of education with pupils entering Form 1 after having been selected by examination (at Standard IV and again at Standard VIII). The curriculum offered leads to the Cambridge Overseas School Certificate examination at Form 4. The Cambridge University Examinations Syndicate has adjusted examinations so that syllabuses for such subjects as biology, geography and history are closely aligned to African conditions. English is the medium of instruction and a great deal of time is devoted to its teaching. Other subjects in the curriculum are Swahili, mathematics, physics, chemistry, geography, history, religion, and biology. Girls also study domestic science where facilities and staff are available. Few secondary schools have provision for arts and crafts, such as metalwork and woodwork; physical education and music are usually absent as subjects.

26. Secondary schools in Tanganyika total 63 of which 28 are government and 35 belong to voluntary agencies; 45 of the schools are boarding schools and 18 are day schools. Despite the additional cost of operation, boarding schools are essential for geographic reasons.

27. The curriculum for Forms 3 and 4 follows that required by the C.O.S.C.; that for Forms 1 and 2 leads into the work of Forms 3 and 4 but allows more diversity of curriculum between schools. The Ministry is devising new syllabuses and the first, that for history, emerged this year, together with lists of recommended textbooks. The syllabuses for mathematics and science, now being prepared, are based upon modern research and advice of M.I.T. and London University educators. Another promised development is diversified curricula, to enable less academic pupils to substitute technical or commercial subjects for some of the more literary subjects.

1/ Excluding vocational, technical and agricultural secondary schools.

2/ Enrollments in secondary classes following 8 years of primary education comparable with Tanganyika.

28. In ten schools, qualified pupils can proceed from Form 4 to Forms 5 and 6 to prepare for the Cambridge Overseas Higher School Certificate examination and thus qualify for entrance to university and medical school or other forms of further education, such as Education Officer III training.

29. Drop-out of students during the secondary school course is not high since government has discontinued recruiting at Form 2 for certain levels of employment. Projected figures give a fall in enrollment of only 4% over the four years, Forms 1-4. Few students repeat courses. Girls represent about 15% of secondary school enrollment.

30. Under examination procedures in general use in Tanganyika, candidates for the C.O.S.C. take not less than six nor more than eight subjects. It is proposed to change to the Cambridge University General Certificate of Education (G.C.E.) examinations where a certificate is awarded for passes in a minimum of three subjects not including English. An East African Examinations Board may eventually replace the Cambridge authorities as the responsible body for secondary school examinations in Tanganyika when staff becomes available. The secondary technical school streams will take G.C.E. examinations for both general subjects and for technical subjects. While the content of the examinations could benefit from further adaptation to East African needs, they serve at present as a satisfactory test of scholastic attainment.

31. Secondary schools are inspected by the Ministry and also by Boards of Governors and by representatives of the voluntary agencies. It appears that visits to secondary schools by headquarters inspectors are less frequent than is desirable because they have heavy additional staff duties at the Ministry.

Technical Education and Vocational Training

32. While the facilities for technical education and vocational training are adequate to meet the country's rather modest present needs, the types of courses in which graduates are turned out in this field have not been tailored to the employment opportunities. The government is taking steps to remedy this situation. Details of this part of the system are given in Annex 1.

Higher Education

33. The University of East Africa comprises three inter-territorial university colleges: Makerere University College in Uganda, the Royal College in Kenya, and the Dar es Salaam University College in Tanganyika. (The last-named college at present offers only a three-year course in law but it is expected that Faculties of Arts and Social Sciences will open by

September 1964). Of the 1,112 students attending the University in 1962-1963, 238, including only 146 Africans, were from Tanganyika or approximately one-fifth instead of that country's agreed proportion of one-third of the places available. Larger numbers could be accommodated and an increased output of graduates would be of great benefit to the three territories which support the university.

34. In 1961-62, 1,189 Tanganyikan students were in universities, colleges, hospitals and institutes in the United Kingdom, Germany, U.S.A., India, and other countries. Forty-five per cent of them were non-Africans. The most popular courses are engineering and medicine but few Africans join the former. A Cabinet level Central Selection Board is responsible for selecting individuals for awards for overseas study, whether financed by the Tanganyika government or by other bodies to ensure that awards do not conflict with facilities already available in East Africa, to avoid removing too many secondary school pupils from employment opportunities within the territory and to assure that valuable manpower will enter fields of study useful to Tanganyika.

Teachers and Teaching Methods

35. Teaching techniques in secondary schools vary among teachers, who include African Education Officers III and Grade A teachers, Asian, American, British, Scandinavian and other, degree and non-degree teachers. Out of a total of 309 degree teachers only twelve are Africans, who were trained in East African institutions. The Asians mainly have Indian university degrees. The shortfall in local staff is made up of expatriates who are missionary teachers, government officers, teachers supplied under the U.K.-U.S. "Teachers for East Africa" (T.E.A.) scheme or Nordic Council teachers. In fact, overseas governments not only provide the teachers but also supplement local salaries to the extent of £130,000 in fiscal year 1964 which sum will rise to £200,000 in 1967. The standard of teaching is satisfactory, but, as in all countries today, there is a shortage of good teachers of mathematics and science. English teaching by Africans causes some concern but the British Council has recently brought to Tanganyika an expert in this field and it is expected that his work will aid the teacher training colleges in their efforts to improve this subject. There is also an inadequate number of good teachers of Swahili and of books prepared in the Swahili language.

36. Under Tanganyika's present employment specifications all teachers in Forms 3 through 6 are expected to hold university degrees, in order to teach the curriculum required for C.O.S.C. examinations. In theory, degree teachers would be desirable also for Forms 1 and 2, but the economic and social development of the country will not permit Forms 1 and 2 posts to be staffed with teachers of such qualifications for years to come. In any event, the less rigorous teaching demands of the first two forms permit the

use of non-degree teachers without serious damage to the educational system. These non-degree teachers are the so-called Grade A teachers, who have a C.O.S.C. plus two years of teacher training, usually received in East Africa, and Education Officers III, who have a C.O.H.S.C. plus two years of training. Because the numbers of African non-degree teachers have not yet nearly caught up with the requirements for staffing Forms 1 and 2, it is necessary now—and until 1966—to fill the gap with expatriate teachers (who typically have degrees).

37. The expansion program will require the employment of Forms 1 and 2 teachers to rise from 398 in 1962 to 486 in 1966.^{1/} In 1962 there were only 122 non-degree teachers available for Forms 1 and 2, and Tanganyika had to use 276 degree teachers in those forms. Even more have to be used this year (298) as new classes have opened faster than non-degree teachers have been produced, but there will be a gradual reduction in the use of expatriate teacher in early forms until they disappear entirely in 1966. In 1965 it should be possible to assign some better qualified non-degree teachers to primary schools where their training is sorely needed to improve the education of that great majority of children who will not enter secondary school and to bring to a higher standard those who do. In the next five years nearly 500 will be available for such transfer.

38. For degree teachers the problem is more protracted. The 309 teaching posts filled in 1962 will become 626 by 1968. In addition, more than a thousand replacements will have to be found for degree holders who will have died, retired, or gone home in those five years. It is clear that African degree teachers cannot be developed in the numbers needed in the near future—perhaps not for ten years. In the interim, it will be necessary for the country to continue to rely on expatriates, of whom 585 were employed last year.

39. Expatriate teaching staff has characterized the educational system of Tanganyika throughout its history in the form of overseas teachers brought in by church organizations as well as the Colonial office. The novelty of the present problem arises from the fact that a greater number of expatriates is needed, while fewer missionary teachers are forthcoming.

40. The problem of staffing new facilities to become available under the expansion program would be readily manageable were it not for the concurrent high turnover and replacement rate among expatriates already employed who, except for those with missionary background teaching in voluntary agency schools, contract for only one- or two-year tours of duty. For 1963 the supply of overseas teachers is strained to the utmost. There is a national shortage of 15 degree teachers compensated by rigorous scheduling and extra burdens being assumed by existing staff. By 1964 the stringency

^{1/} Cf. Annexes 2 and 3 for teacher requirements.

should begin to abate and the situation should become progressively easier as the new overseas recruitment campaigns become fully effective, and as it becomes possible to transfer degree teachers now engaged in Forms 1 and 2 teaching to the upper forms. For example, the "Teachers for East Africa" scheme undertakes to provide 86 teachers in 1963, 109 in 1964, and 80 each year thereafter. The British Department of Technical Cooperation and voluntary agencies plan to bring in from 80 to 100 annually. And after 1964, degree teachers should be transferring from the lower forms to the upper.

41. The success of the overseas recruitment efforts—by churches, the U.K., the U.S., the Nordic Council, Canada, and Australia—cannot, of course, be guaranteed. A review of prospects with representatives of some of these governments gives promise of probable success. In the event that other measures fail in overseas recruitment, the U.S. Peace Corps has indicated its interest in providing secondary school teachers and it would, of course, be possible for Tanganyika to import Asians holding university degrees in teaching in whatever numbers are required.

42. As Institutes of Education come into being at East African University level, they should seek further improvements through research in secondary school curricula, teaching methods, examinations, language teaching, aptitude testing and related fields in which the needs of the African child are not adequately met by present imported pedagogical standards and methods. Until that time, the government may wish to ask Unesco and other competent organizations to supply technical assistance for research and development to these ends.

43. In summary, the present standard of education given in the secondary schools is appropriate to the needs of the labour market or further training, as described below. Examination results at C.O.S.C. and C.O.H.S.C. levels indicate the effectiveness of the instructional program for Africans. The typical African youth finishes primary school at age 15 or 16 an unsophisticated person, still a stranger to the modern world, without a personal background of home and community experience to permit him by observation to fill the gaps in his formal education. Nevertheless, after four years of secondary school, his performance in terminal examinations is at a very creditable level of attainment.

Buildings and Equipment

Buildings

44. Government secondary schools are designed, built and maintained by the Ministry of Communications, Power and Works, whose Public Works Division has architects, engineers and quantity surveyors and Regional (Civil) Engineers. On average, one government officer is assigned to inspect each £100,000 of routine construction work. In 1963 the approved

complement was 50 civil engineers, with the bulk of the billets filled, but repatriation may create serious problems of keeping all posts filled in the future. The present professional staff is almost entirely expatriate, of high quality, experienced in Tanganyika, and is sometimes assisted by private architects. The contract in use is the Royal Institute of British Architects lump sum fixed price form of contract and a performance bond is normally required.

45. Voluntary agencies' schools are designed, built and maintained by their own organizations but the Ministry of Education has a considerable measure of control since it finances voluntary agencies' construction of approved additions to plant for authorized enrollment expansions. The amount allotted is the sum that the Ministry determines adequate to build the given addition at minimal, standard government specifications. Fifty per cent of the government grant is paid to the voluntary agency when the Ministry, in consultation with Public Works Division, has approved the plans; a further 40% is paid when the Regional Engineer reports that the works are satisfactorily well advanced; the final 10% is released when the Regional Engineer certifies that the work has been properly completed. Voluntary agencies may use funds from their own resources to achieve or improve upon the basic minimum government standards of construction. Provision exists for the recapture of advances in the event of default or change of plan. Voluntary agencies sometimes employ private architects and the physical standard of some of their schools, both in construction and maintenance, was among the highest seen in Tanganyika. The system works well except that the liaison between the Ministry of Education and Public Works Division at the design approval stage is not always as close as it might be.

47. Design and costs for both government and voluntary agency schools are based upon the same minimum standards, which have been evolved over the years by the Public Works Division architects and the Ministry of Education Inspectorate. Standard drawings and estimates of costs are available to the voluntary agencies as well as design notes and standard specifications for their guidance.

48. The standard designs are practical and economical for adding accommodations to existing schools. They are in the form of 'blocks' which can be added easily to the characteristically 'scattered' plan of most existing schools, which have ample land available. The estimated costs relating to these standard units of accommodation are reasonably accurate and are kept up to date from actual contract experience. The buildings cost an average of £2 per square foot to construct, including fittings and furniture but not equipment, and the figure is reasonable.

49. In the case of completely new schools perhaps the best example is Lyamungo Boys Boarding School near Moshi, which was completed last year^{1/}

^{1/} By a cooperative union and donated without cost to government.

at a cost of £ 101,500 including fittings. The standard of design is appropriate and the cost at £ 362 per student place is reasonable. This is the school which has been accepted by the Ministry of Education as a suitable model upon which to base future new school designs. A discussion of relative school building costs will be found in Annex 11.

50. Reliable contracting firms are numerous. The Public Works Division's list of approved contractors contains an adequate number of suitable firms. The building industry at present is under-employed and there should be no difficulty in its achieving this construction program although prices may rise if contractors become more fully employed.

Equipment

51. A lump sum grant is made for initial equipment installed in newly constructed classrooms or laboratories. Thereafter, an annual payment per student is given by the Ministry, varying according to the level of classes in which students are enrolled. From these grants, textbooks, English or American, are supplied free to secondary school pupils. They are selected according to the requirements of the C.O.S.C. curriculum. Initial and replacement laboratory equipment is also purchased from these grants. In general, books, equipment and school supplies are furnished in adequate quantity and quality although in some schools a higher scale of laboratory equipment would be desirable. Some advantages might result from a scheme of bulk buying for some of the school supplies.

Maintenance

52. Maintenance for government schools is provided by funds contained in the annual public works budget appropriation, and government school buildings visited had been maintained in an adequate state of repair. Maintenance of voluntary agency school buildings is provided by a government grant-in-aid on the scale of £ 3 per pupil which is about three-quarters of the sum the government spends on its own schools. Voluntary agencies, however, may use their own resources to maintain their schools; those visited were in an adequate state of repair.

Financing of Education

53. Tanganyika's determination to accord high priority to its educational program is evidenced by the large fraction of its income dedicated to schools. Tanganyika is spending an estimated £ 7,206,000 from all sources on recurrent costs of education in fiscal year 1964 and another £ 2,097,000 on capital expansion. This £ 9,303,000 represents about 7.5% of the GDP generated in the monetary economy in 1962 or 4.5% of the total GDP of the country. It includes central and local government and voluntary agency spending. 1/

1/ Cf. Annexes 4 and 5.

54. The sum planned to be spent in fiscal year 1964^{1/} on capital expansion will be contributed from central government taxes, local government taxes and fees, voluntary agency contributions, and donations from foreign governments and foundations as follows:

<u>Source</u>	<u>£000</u>
U.K. Government Grants and loans	430
U.S. Government Grants and Loans	355
Ford Foundation Grant	150
Aga Khan Foundation	55
Karimjee Trust	5
Local Education Authorities	195
Voluntary Agencies	200
Tanganyika Government	<u>295</u>
	<u>1,685</u>

In addition, more than £400,000 would be disbursed from the requested IDA credit.

55. Fiscal year 1964 capital spending will be about £400,000 higher than in fiscal year 1963, which in turn was higher by £120,000 over fiscal year 1962.

56. About 70% of all recurrent costs of education are met by the central government. In fiscal year 1964 the central government alone will spend £4,936,000 on recurrent costs. The £4.9 million represents 23% of all "supply votes"^{2/} of government, or 19% of the entire recurrent central government budget.

57. For secondary schools alone, recurrent costs for 1964 will see £1,500,000 committed, over 20% of all recurrent costs of education, which will rise to £1,900,000 in the fiscal year 1966. In terms of the total appropriated from central government resources for all education, secondary education takes 27%. Central government already meets over 90% of the net costs of secondary education, or over £1,400,000 in fiscal year 1964 (but only half the costs of primary education, leaving school authorities to raise nearly £1 million for primary schools in 1964). School fees have previously provided one-sixth of the total revenue for school purposes; as of January 1, 1964, secondary school fees will be abolished with the result that only one-tenth of all school revenues will thereafter derive from fees (from primary students). Secondary school fees have been discontinued because remissions in needy cases had resulted in uneven treatment of students as between different school jurisdictions and the yield was so small that the scheme was more trouble than it was worth.

58. Government has declared its readiness to support the secondary school expansion program in future by increasing allotments for secondary school expenditures by £350,000 per year for the next five years, which is ample to assure that the expanded facilities will be fully utilized.

^{1/} July 1, 1963 - June 30, 1964.

^{2/} Variable, controllable, expenditures for which no specific statutory obligation exists--excludes debt service, pensions, etc.

IV. NEED FOR AN EXPANDED SECONDARY SCHOOL SYSTEM

Earlier Studies

59. All of the studies that have been made in recent years point to the top priority that should be given to expanding the secondary education system. Details can be found in Annex 1.

60. Only 4.8% of pupils who enrolled in Standard I in 1960 will be able to enter secondary school and only 0.72% will proceed to Higher School Certificate forms, even after the secondary expansion to be financed by the proposed loan is completed in 1968. The proportion between primary school graduates and secondary school entrants is illustrated by the following table:

<u>Years</u>	<u>Estimated No. of Pupils Completing Standard VIII</u>	<u>Places in Form 1</u>
1963	15,000	5,075
1964	18,000	5,250
1965	19,000	5,670
1966	22,000	5,670
1967	23,000	5,670

61. The drop-out rate between Standards V and VIII is modest and there is unlikely to be any shortage of suitable, selected, primary school candidates for the number of secondary school places to be available under the expanded program.

62. Yet the figures on total secondary school^{1/} enrollment conceal a very important element in the composition of that enrollment. Tanganyika's population is 98.0% African. In 1961, its secondary school enrollment was only 36% African. Over 55% were Asian. The schools until 1961 operated on a racially segregated, fee-charging basis--and catered for urban populations. The principal towns have around 25% non-African population, who could better afford the fees than could Africans. Thus, under the former, segregated system, wealthier town dwellers were vastly advantaged over poorer, country people who were overwhelmingly African. Another effect was that because of the accident of residence and income a lower calibre student was admitted to the secondary school system than would have been admitted by a fair representation of the entire population. In 1962, as a concomitant of independence, the school system was integrated with all three races eligible to attend any secondary school, admission to be competitive within regions. A quick result was a shift in the enrollment in favour of Africans and away from Asians.

Labour Market Requirements

63. In 1962 in Tanganyika there were 388,000 workers (332,000 Africans) in employed status, 3.6% less than in 1961, despite the nearly 8% rise in GDP. The decline came as (i) employers economized in the use of labour after the increase in minimum wages; (ii) increased use of capital raised worker

^{1/} Cf. Annex 6

productivity so that fewer workers were needed; and (iii) the changing pattern of production called for fewer, more highly educated and trained workers. A significant aspect of this employment trend is that it was uneducated and untrained workers who were laid off as technology reached industry and agriculture. The requirements for high-level personnel remain high, especially in those occupations new to Tanganyika.

64. ^{1/} Of the 9,300 employees engaged in "high-level occupations" in 1962, 1,600 were administrative and executive personnel; 4,000 were professional and technical employees who had received pre-employment education to fit them for the specific job held, and 3,700 were workers who could be characterized as highly skilled manual.

65. The labour force is characterized by an almost total absence of whole bands of occupations in the middle level. Traditionally, Tanganyika has relied upon expatriate European personnel to supply an elite in the professional, technological and executive brackets; upon Asians as a middle class of clerks, shopkeepers, small entrepreneurs, etc., and upon Africans only in the semi-skilled and unskilled occupations. There have not yet been produced the technicians and junior executives upon which modern production depends to support scarce, high-priced professional manpower. Such a cadre can be created only by means of a rapidly increased output of secondary school leavers.

66. Looking to the future, a net addition of 2,600 administrative and professional workers is needed in the next five years, including 675 teachers and 575 medical professional and sub-professional personnel. More than 3,000 additional workers in the administrative, professional and technical grades are required as replacement during the next five years for those who leave their positions by retirement, mortality and emigration. In aggregate, the gross requirements, 1962-67, for new high-level workers to accommodate economic growth, Africanisation, retirement and mortality come to more than 5,600 additional administrative and professional persons, or almost exactly the same number as the entire present employment, plus 2,500 craftsmen.

67. Employers, both public and private, desire to have secondary school graduates with a broad general education as new employees who can be given technical training in connection with their job duties and brought to technician or junior executive level in terms of the requirements of their specific employment. There are a variety of "on-training" opportunities in and out of government that will equip secondary school leavers to perform middle-level jobs after a year or two of training and experience. It will be clear, however, that the number of secondary school graduates to be produced even under the expanded program cannot satisfy all of the requirements of Tanganyika in the next five years and accordingly there will have to continue to be reliance upon expatriates, the use of semi-trained local personnel and of performance by professionals and executives of technician level duties in addition to their own.

^{1/} Cf. Annex 7

68. For the next five years the following occupations will be required at a level of more than double present employment:

- Teachers
- Engineers and engineering technicians
- Agricultural technicians
- Lawyers
- Social scientists and aides
- Medical practitioners and technicians

Middle Level Employment Needs

69. Government ministries^{1/} recruit and then provide training to African secondary school graduates to equip them for a variety of technical and junior executive posts, but the number of secondary school graduates is inadequate so that a strict rationing and allocation among such institutes is necessary. Each year the Vice President requests all ministries and East Africa Common Services Organization (EACSO) to submit their high-level manpower requirements and needs for secondary school graduates. He reviews and adjusts their needs for graduates and arrives at a "balanced manpower budget", setting upper limits on the number of graduates each ministry can recruit. Priority is given to filling Form 5 vacancies (which lead to university training). Second priority is given to teacher training. In 1962 only 998 Africans graduated from secondary school. For each year 1963 through 1967 there will be a need for more than 1,600 secondary school graduates in ministries and E.A.C.S.O., without regard for the needs of private employers. (Not all presently available on-training institutes can be filled with secondary school leavers, leaving none for job opportunities in private industry.)

70. Some 400 persons per year should enter teacher training in the next four years, but in 1963 there was a shortfall of 22% in requirements, despite the high priority given to teacher training. There are 22 teacher training colleges, few of which are fully utilized. Yet, as shown below, there will be a continuing demand for more teacher training for many years to come.

71. Technical College courses for civil, electrical and mechanical technicians had only 41 students for 180 places. All these students are in pre-service training prior to government employ. None are available for private industry. At the Civil Service Training Centre for government clerical and executive officers the numbers of clerical officer applicants fell far short of the number of jobs available; 250 are required annually to 1967.

72. In 1962 the Ministry of Agriculture requested 356 Form 4 students to train as assistant agricultural officers, etc., at its three Natural Resources schools. The Vice President was able to allot only 60. Nor is there to be any reduction in demand during the next five years. The Ministry of Health, for its new and higher level medical course, hopes to fill 25 vacant places annually, but in 1962 only 14 could be recruited.

^{1/} Cf. Annex 8 for details.

73. The Police Force, the Ministry of Co-operative and Community Development, the East African Railways and Harbours Administration, the Posts and Telegraphs Administration, and other sections of the East African Common Services Organization all have heavy recruitment needs in Tanganyika at Form 4 level which cannot be met at present.

74. Private employers, who also endeavour to recruit Form 4 boys and girls, comment that the shortage of graduates produces high turnover, low morale, and an unstable work force. Many boys join firms on leaving school but few stay for long. The shortage of African graduates is overcome to some extent by the employment of Asians, but, although government has issued no orders to private employers as yet, it is believed that soon commercial and industrial employers may be invited to increase the rate of Africanising their staff.

Higher Education Opportunities

75. The anticipated expansion of the three colleges of University of East Africa should increase enrollment to about 2,300 by 1966-67. Tanganyika's share would be some 700 student places (as against a present enrollment of 146 Africans among a total of 208 from Tanganyika), or an annual entry of about 250, a figure which could be met from the 800 students who will complete Form 6 in 1966 and thereafter, if the proposed secondary school expansion is implemented. Plans are now being drawn for necessary further expansion of the University, in consideration that three countries with a population of 24 million cannot be served by a university of only 2,300 students. Fulfilment of Tanganyika's quota is impossible unless secondary school education is expanded. In certain disciplines higher education will have to be continued abroad since there are not now facilities at the University. Bank/IDA has been invited to attend the forthcoming meeting of potential credit sources for the University where the expansion plans, needs and priorities will be reviewed. Any acceptable plan must take into account the prospective supply of secondary school leavers.

Earnings and Education

76. In 1962, of the 332,000 Africans in employment only 8,500 earned more than 400 shillings per month (\$56). Of that number 47% were in government services. Mainly, these better-paid African government workers had formal education to Form 2; increasingly the demands of the job are resulting in higher educational requirements. All African employees averaged 122 shillings per month in 1962; Asian employees (much better educated) averaged more than 900 shillings per month; European employees, whose contribution to Tanganyika came from their superior education and training, earned 2,600 shillings as a monthly average.

77. There remained in Tanganyika's Civil Service on January 1, 1963, 2,900 non-Africans in senior and middle-grade posts. Expatriates will continue to be employed for more than seven years until educated and trained officers are available to step into their places. Expatriates are subsidized with fringe benefits in the form of overseas allowances, travel costs, etc.,

that add an estimated 50% to the base pay prevailing for qualified Africans. Thus, at the moment Tanganyika and friendly countries are paying salaries for the equivalent of 1,500 more workers at the top salary scales than will need to be paid when the domestic labour supply has been educated and trained to do their work.^{1/}

78. In short, there is a great and continuing shortage of secondary school graduates. There are too few to meet the needs of government and private employment and the opportunities available for teacher training, technical education and higher education. Until the needs are satisfied, the development of the country will be retarded, whereas, if the need is met, an early return on the increased investment in education can be expected. In addition, the very existence of a body of qualified manpower will serve to create the climate and conditions for economic growth.

V. THE PROJECT

79. The project before IDA proposes the construction of two new boarding schools and extensions to 53 other schools (out of a total of 63 secondary schools in Tanganyika). The 53 include 12 government boarding schools, 27 voluntary agency boarding schools, 8 government day schools and 6 voluntary agency day schools. The IDA proposed expansion alone will provide places for 6,845 additional pupils. Extensions are being added to existing schools rather than building new schools, in order to economize in time, construction, operating costs and administration.

80. In addition to the extension for 6,845 pupils included in the proposed IDA project, a private foundation, (the Gallanos Family Trust) and the Nordic Council are donating two schools with places for 780 pupils. Also, 1,015 additional secondary school places are being provided by re-assigning places at certain other schools plus conversions and modifications to be completed from other funds. Thus, a grand total of 8,640 additional places for secondary school pupils will be available at the end of the expansion program.

81. With the entire expansion^{2/} there will be available, at the opening of school in January 1968, 728 secondary school classes for 24,280 children (2% of the population of the age group) or 8,640 more than in 1962. Some 5,670 students (2.5% of the age group) would enter first year of secondary school. All would have places to finish their schooling.

82. Of the 8,640 additional places to be made available from all sources, 95% will be for boarding students. At the end of the program, there will be 16,980 boarding places and 7,300 day school places. The

^{1/} The supplementation is for the most part paid by foreign sources rather than by the Tanganyika government.

^{2/} See Annexes 9 and 10.

provision of boarding facilities is essential, among other reasons, because of the very low population density in Tanganyika which prevents the vast majority of African children from attending school within commuting distance. Also, Tanganyika is very little urbanized, with only one city of more than 140,000 people and the second around 35,000. Thus there are few large concentrations of population to be served by education or other services. Relatively fewer Africans than Asians and Europeans live in urban centers - thus the provision of day schools would favor non-indigenous peoples. Tanganyika is a land of some 120 tribal groups, with nearly as many dialects. The boarding school serves as a melting pot to unite Tanganyikans and build national awareness. Secondary school students require a minimum standard of nourishment, conditions for study and intellectual environment found in boarding schools but in very few African homes. Finally, the performance of boarding school students on terminal examinations is considerably better than that of day students as a result of their more conducive living and study conditions.

83. The expansion program is much more modest than that recommended by the education planning mission of UNESCO, which the government concluded was far larger in recurrent costs and teacher requirements than its ability to support.

Its Costs

84. The capital cost of the project before IDA will be about £2,150,000, including a contingency allowance of £ 200,000 for changes of plans and rises in prices. The project includes approximately £ 200,000 for furniture and equipment. As a result of the project, the 6,845 extra secondary school places to be provided will average in cost £ 314 per place including contingency allowance. The project is considered economical.

85. The construction program has already been started. The government in order to carry out a secondary school expansion as speedily as possible has committed, and is now spending, capital expansion funds available to it. Already between one-fifth and one-quarter of all the costs involved in the expansion program have been disbursed, and since January 1963 a few students have actually been enrolled in some of the facilities described.

86. The £ 1,950,000 (net) expansion project^{1/} before IDA is composed of five categories of work on secondary schools. The first contemplates improving facilities and adding new streams at 27 existing schools. Secondly, two new schools will be built. A third category of work includes the rounding out of seven boarding schools, started in 1961. Next, nine existing day schools will be given boarding facilities. Finally, there are to be conversions of ten redundant primary schools and teachers colleges.

1/ Cf. Annex No. 9

Summary of Secondary School Expansion Program

	No. of Additional Classes Provided <u>1962-1968</u>		No. of Additional Places <u>Day</u> <u>Boarding</u>	Estimated Cost of Work (Net of Contingency Allowance)
<u>Category A</u> - Improving and Expanding Facilities at 27 schools.	74	200	1,865	£ 710,000
<u>Category B</u> - Construction of two new schools	23	-	745	400,000
<u>Category C</u> - Completing 7 partially operating schools	36	-	1,260	345,000
<u>Category D</u> - Adding boarding facilities at 9 day schools	31	175	1,200	230,000
<u>Category E</u> - Converting 10 primary schools and tea- chers colleges to second- ary schools.	<u>50</u>	<u>-</u>	<u>1,750</u>	<u>265,000</u>
	214	25	6,820	£ 1,950,000
			6,845	
Other additional facilities not included in IDA project.	<u>53</u>	<u>280</u>	<u>1,515</u>	
	267	305	8,335	
			8,640	

87. The five categories are described below:

Category A: £ 710,000 of the total value is to be spent for improving facilities, completing streams and adding new streams to 27 existing schools. These schools are modest, built within a stringent budget. The new work consists of adapting standard designs to the individual sites, a process for which the designs themselves are well suited and present few problems.

The accommodations provided are adequate as to basic numbers of classrooms, laboratories, dormitories and staff quarters, but are uneven in the provision of assembly halls, libraries, workshops, art/craft rooms, geography rooms and administration offices. Domestic science facilities are often lacking, but, equally, there is an acute shortage of domestic science

teachers. The government is aware of the absence of these desirable but deferrable facilities, the provision of which would cost some £ 400,000, and proposes to make them good at some point in the future after a more detailed survey and if and when funds become available. This category represents construction well suited to the immediate needs and existing resources in Tanganyika.

Category B: £ 400,000 for the construction of two new government secondary boys boarding schools. The first, at Kideleko/Tanga, a four-stream Forms 1-4 school with provision for later addition of a single stream, Forms 5-6, is to replace two existing schools, one of which has a poor water supply and is inaccessible, while the other is in unsound buildings and on a restricted site impossible to extend. The second new school at Shinyanga is a three-stream, Forms 1-4, single-stream, Forms 5-6, school in a remote area, to serve isolated Africans now inadequately served. Accommodations for both schools are suited to their needs. The costs estimated for each of these two schools at about £ 200,000 seem reasonable.

Category C: Represents £ 345,000 for completing seven voluntary agency boarding schools. These schools are to be two-stream, Forms 1-4, and each has the same adequate provision of classrooms, laboratories, dormitories, dining halls and in the case of girls schools, domestic science facilities; but the rest of the accommodation varies from school to school. The government allotment to these schools is less than would be required to build the accommodation indicated at the 'standard' cost per square foot. It is possible that economies are effected in actual building practice which permit smaller than 'standard' allocations to be made. About half the total construction has been completed; that part of it seen by the mission was satisfactory. The entire program has been committed for completion at comparatively small cost to the government. The designs meet the needs and completion is safeguarded by contracts with voluntary agencies already entered into and the precedent that voluntary agencies have always fulfilled past obligations.

Category D: £ 230,000 will be spent for adding boarding facilities for some 1,200 rural pupils at nine existing day schools. The work consists of adding standard hostels, providing dining rooms and kitchens and one new staff quarter for the warden at each school. The standard designs are simply planned to minimum standards for health protection and the cost (estimated at £ 6,500 for a 50-bed hostel, £ 9,000 for a 75-bed hostel, £ 6,500 for a dining hall and kitchen and £ 3,000 for a warden's house) are reasonable in Tanganyikan terms (£ 2 per square foot).

Category E: £ 265,000 for converting eight upper primary schools, and two obsolete teachers training colleges into ten secondary schools. Conversion work is notoriously difficult to estimate and keep within estimates. In general, it is proposed to provide facilities for about one-quarter the cost of new construction. It seems reasonable that this can be achieved although it would be prudent to allow some contingencies for over-runs. Half the conversions are of voluntary agency schools where additional costs may partly be met by the agency and not by government.

88. Cost estimates have been prepared by the government on the basis of its current cost experience, both per square foot and by type of accommodation, in similar types of construction. Their estimates have been somewhat amended in the light of the mission's investigations. The contingency allowance of £ 200,000, representing £ 140,000 for changes of plans and £ 60,000 for changes of price is appropriate and adequate.

89. As seen in Annex 9, the construction work is mainly in very small units. Locally available materials are used to best advantage. International competition among contractors is feasible only for the two entirely new schools. When bids are invited for these two, Embassies of Bank members in Dar es Salaam should be included in the advertising, so that their nationals might compete. The estimated £ 200,000 of equipment required in the project embraces scores of types of items which would be purchased through "international comparative shopping" from catalogues and lists of qualified suppliers approved by the Ministry of Education.

VI. FINANCING THE PROJECT

90. Government commenced construction of the expanded secondary schools during 1962. In fiscal year 1963, government paid out somewhat more than £ 500,000 for construction and school equipment, having utilized Colonial Development and Welfare funds which had been made available, untied, as a gift from the U.K. government at the time of Tanganyika's independence.

91. Estimated construction costs, net of contingencies, per fiscal year are expected to be in the order of:

	<u>£ 000</u>
1963	500
1964	465
1965	570
1966	350
1967	65
	<u>£ 1,950</u>

92. Local costs represent about 70% of the total; foreign exchange costs of £ 575,000, net of contingencies, consist mainly of imported equipment, as the principal building materials used are locally produced.

93. Value of the land contributed by the government of Tanganyika is not included in the estimated costs.

94. No current running expenses would be covered by the IDA credit.^{1/} Expenditures for teachers, equipment and maintenance of the expanded system can be financed within foreseeable government revenues and priorities for education. The government has given assurance of its intention to support secondary school expansion recurrent costs.

VII. CONCLUSIONS

95. Tanganyika urgently needs more secondary school graduates to train for the wide range of jobs necessary to Tanganyika's economic and social development. Both public and private employment need graduates for necessary expansion and replacement and to reduce dependence on expensive expatriate personnel.

96. Additional graduates can be produced only by increasing secondary school facilities. Economy of construction time and cost, and of school administrative overhead, dictate the expansion of existing schools rather than the erection of new schools.

97. The 1962-67 expansion now before IDA will fill a crucial gap in the education system. It is not part of the "normal" growth of the school system.

98. There is an ample supply of primary school graduates to fill the places which will become available in the expanded system.

99. The curriculum is adequate to the present development needs of the country and will benefit from continuing adaptation to African conditions. Everything considered, the secondary school system is following sound educational practices, which are under continuing review to assure that they keep current with changing needs.

100. The proposed secondary school expansion is well planned and administered. It is not likely to be hampered by shortage of teachers. Architectural design is appropriate, and economical. Construction can be carried out without difficulty. Government has undertaken to provide necessary recurrent finance.

101. Total estimated cost of the project is to be approximately £ 2,150,000, representing a net cost of £ 1,950,000, plus a contingency allowance of £ 200,000 for possible changes in plans and price rises.

^{1/} For details of the recurrent costs of secondary education, see Annex 5.

102. The project provides a suitable basis for an IDA development credit. If the local contribution were taken to be equivalent to total expenditures during the first fiscal year of the project, the credit would approximate £ 1,650,000 (77%) and the local contribution £ 500,000 (23%). It is to be noted that, in addition, government has provided the land on which construction is to take place, the value of which is neither included in the cost of the project nor in the government's contribution.

103. There is a good prospect that qualified teachers in sufficient numbers will be available to carry out the program.

104. Assurances have been received that government will provide sufficient sums to cover all necessary and appropriate costs of operating the secondary school system and continue to give high priority to completing the secondary school expansion construction.

November 26, 1963

GLOSSARY - TALOGA VIKA

- Board of Governors - A governing and advisory board of government and community leaders for each secondary school, appointed by government (and by voluntary agencies together with government in schools operated by voluntary agencies).
- Cambridge Overseas School Certificate (C.O.S.C. or S.C.) - A certificate granted by the Cambridge University Syndicate to a student successfully completing examinations in at least five subjects, including the English language, given in Form 4 at the end of twelve years of schooling.
- Cambridge Higher School Certificate (C.O.H.S.C. or H.S.C.) - A certificate granted by the Cambridge University Syndicate to a student successfully completing examinations in at least two principal subjects, given in Form 6 at the end of fourteen years of schooling.
- Education Officer III - Normally, a teacher in Forms 1-4 with C.O.H.S.C. followed by two years of teaching training teaches in Forms 1-4.
- Fiscal Year - July 1 - June 30 is a fiscal year.
- Form - A secondary school class. All secondary schools provide four forms of instruction, Forms 1-4. Some provide a fifth and sixth form, completion of which is necessary for Higher School Certificate examination and for university entrance in East Africa.
- General Certificate of Education (G.C.E.) - A certificate awarded by the Cambridge University Syndicate (and by other British examining bodies) to an overseas student who successfully passes examinations in a minimum of three subjects -- not necessarily including the English language -- normally after twelve years of schooling.

Grade "A" Teacher	- A teacher with a School Certificate plus two years of teacher training; may teach in Forms 1 and 2.
Local Education Authority (L.E.A.)	- The urban or rural municipal council responsible for maintenance and operation of primary schools.
Primary School (Lower)	- A school offering the first four years of education.
Primary School (Upper)	- A school offering the second four years of education.
School Year	- January to December, with three one-month holidays.
Secondary School	- A school offering four years of schooling (six in ten cases in Tanganyika) after completion of eight years of primary school.
Standard	- One of the classes in eight years of primary school.
Stream	- A full set of four classes at the lower primary, upper primary, or secondary school level.
T.E.A.	- "Teachers for East Africa" -- a UK-US scheme for recruiting, training and supplementing the pay of degree teachers for East African schools.
Trade Schools	- A post-primary institution, offering training in mechanical trades.
Voluntary Agency	- Catholic or Protestant church organization, or Aga Khan (Ismaili) Foundation responsible for maintaining and operating one or more schools.

MISCELLANEOUS NOTES

Primary Schools

1. Primary education is, in principle, in the hands of local education authorities who have responsibility for building and operating primary schools, and for financing them from local revenues. The central government supplements local finances, which in fiscal year 1964 amount to more than 60% of the total cost, supervises the primary schools through a network of Regional and District Education Officers and inspectors, and assures that standard teaching materials and methods are in use.
2. Most primary school teachers, especially in the lower grades, have themselves had only a primary school education followed by two years of teacher training in small colleges, relatively poorly equipped to develop teachers. They receive little continuing in-service training.
3. Another limitation to ideal preparation of primary school children for participation in secondary schools is the fact that for the first six years in school the child is taught entirely in Swahili which is the lingua franca for the entire country, but the mother tongue for a minority of the children. Tribal dialects are the first language for most African children. In Standard III at the age of ten or eleven, English becomes a subject of instruction. It becomes the medium of instruction only at Standard VII when the child is already 14 years old.
4. Lack of primary school facilities requires that many Standards I to IV classes work on a "double-session" system with shorter than normal time of instruction allocated to each class.
5. Approximately half the age group in the population commences school and 45% finish the first four years, at which point they are examined for their fitness to proceed to the fifth year. Thereafter, only 13% enter the second four years and 7% finish that. Again, at the end of eight years of schooling, they are examined for their readiness for further education.
6. In 1962, 14,802^{1/} children completed Standard VIII and competed for the 5,075 places available in Form 1 by entering the competitive examination in English, arithmetic and general subjects. The number of Standard VIII pupils will rise to approximately 25,000 in 1968 and these will compete for 5,670 Form 1 places. While the latter figure is a reasonable proportion of those who will finish primary school, it is only 2.5% of the relevant age group.

1/ Cf. Annex 6 for enrollments related to population.

Technical Education and Vocational Training

7. Technical education and vocational training is provided by the Government Technical College and two trade schools; voluntary agencies operate small trade training centres. The Technical College is a large, well-equipped complex of classrooms and drafting rooms, laboratories and workshops, dormitories and dining room. At present, its day courses mainly serve to provide pre-service training to newly recruited government staff, such as technical assistants in the Public Works Division of the Ministry of Communications, Power and Works, and clerical officers and secretaries in the general cadre. Other full-time courses are a two-year course for technical teachers, a 1½-year craft course for carpenters, fitters, welders, and bricklayers and a one-stream secondary technical school course. Part-time day classes are for health inspectors, medical students, police wireless technicians and railway administration apprentices. Total enrollment in full- and part-time day classes is approximately 500. Evening classes give instruction to some 1,200 students in building and mechanical engineering, commercial subjects, and G.C.E. "O" and "A" level subjects.* The courses provided are of satisfactory standard and meet the needs of the country; they can be expanded when the government pre-service courses move to the new Junior Civil Service Training Centre.

8. The two trade schools recruit students at conclusion of their primary course and provide three-year courses for house and sign painters, bricklayers, electricians, machinists, plumbers and carpenters. Instructional staff is mainly expatriate and the standard of training is high. Each school has accommodation for 600 pupils, with an annual intake of 200. There appears to be over-production of building tradesmen but boys trained as mechanical fitters and electricians have better employment prospects. After January 1, 1964 the two schools will recruit for trade courses and new secondary vocational school courses; construction trades courses will be concentrated at one school and mechanical engineering courses at the other. These changes will regulate output more closely to labor market needs, provide economies in staffing, increase the output of secondary vocational school pupils who can proceed to further education at the Technical College or at university if they gain the H.S.C.

Earlier Studies

9. The several commissions that have investigated the educational and manpower problems of Tanganyika all agree that the bottleneck in the development of its human resources is at the secondary school level. These include, among others, the East and Central African Study Group's "Report on African Education: A Study of Educational Policy and Practice in British Tropical Africa" in 1953; and the World Bank Survey Mission Report, "The Economic Development of Tanganyika." The government's three-year development plan for the fiscal years 1962, 1963, and 1964, accorded first place to secondary education. The "Survey of High Level Manpower Requirements and

*"A" - Advanced Level; "O" - Ordinary Level.

Resources in Tanganyika, 1962-1967" concluded, inter alia, that secondary education deserved the highest priority in the spectrum of manpower development to help Africans assume their place in the new country. The Tanganyika Africanisation Commission's 1962 report^{1/} on problems of developing a national Civil Service stated that "the hard fact is that it will be some years before the output of the secondary schools catches up with the annual requirements of the economy".

10. The recent "Report of the Africanisation Commission of the East African Common Services Organisation" on providing African personnel rapidly for the East African Common Services Organisation, concluded that the limiting factor in providing high-level personnel is the small output of the secondary school system. In E.A.C.S.O. the administrative and professional class is now made up of only 8% Africans while the top level positions have only 2% Africans.

11. In 1962 a Unesco survey team recommended that:

"Top priority in the field of education policy [be] given to... secondary education [which] should continue to have first call on all resources likely to be available".

12. The Unesco team recommended a much larger secondary education expansion program. The Government of Tanganyika felt that that larger program was beyond its capacity to support for recurrent costs and teachers and has reduced the recommendations to the level of this project. The Bank/IDA Mission had the benefit of studying the Unesco survey team report and conferred for two days in Paris with Unesco staff and the survey team, before proceeding to Tanganyika.

^{1/} The Commission said that substantial progress had been achieved in the year 1962—at the beginning of the year there were 1,170 Africans in senior and middle-grade positions in the civil service—by the end of the year there were 1,821. At the same time the number of non-Africans in top-grade positions had declined from 3,282 to 2,902.

REQUIREMENTS AND RESOURCES OF SECONDARY SCHOOL TEACHERS, 1963-1968Posts Requiring University Degree Teachers

<u>Requirements</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>
Total Posts Required	309	405	492	555	581	608	626
Increases for New Classes	-	96	87	63	26	27	18
Replacements <u>1/</u>	-	97	116	155	254	209	200
Recruitment Needs - Total	-	193	203	218	280	236	218

Resources

Transfers from Forms 1 and 2		0	37	94	138	29
T.E.A. <u>2/</u>		86	109	80	80	80
DTC and VA <u>3/</u>		78	100	80	50	70
Nordic Council		9	14	16	5	18
Canada		5	8	10	10	10
Makerere		5	6	12	23	23
All Other		6	6	10	10	29
<u>Total 4/</u>		<u>183</u>	<u>280</u>	<u>302</u>	<u>316</u>	<u>259</u>

- 1/ Estimated at 30%, based on current experience--it may prove that as greater numbers of teachers are involved and as the new recruitment programs are stabilized, the rate of turnover may decline.
- 2/ "Teachers for East Africa", a joint U.K.-U.S. recruitment and pay supplementation plan, under which degree-holders are recruited in the U.S. or U.K. If they are trained as teachers they are immediately put to work; if they are not, they are given a year of teacher training at Makerere College and then assigned for a year.
- 3/ U.K. Department of Technical Cooperation and church organizations working together.
- 4/ The estimates of overseas recruitment reflect negotiations which have been completed independently by Tanganyika with each supplier of overseas recruits. The total resources in some years thus appear to exceed requirements--in the event, of course, no more will be recruited than can be posted.

Source: Ministry of Education

REQUIREMENTS AND RESOURCES OF SECONDARY SCHOOL TEACHERS, 1963-1968Posts Requiring Non-Degree Teachers*

<u>Requirements</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>
Non-Degree Teachers Posted	122	124	180	301	457	486	486
Degree Teachers Posted to Fill Vacancies	<u>276</u>	<u>298</u>	<u>261</u>	<u>167</u>	<u>29</u>	<u>0</u>	<u>0</u>
Total Posts	<u>398</u>	<u>422</u>	<u>441</u>	<u>468</u>	<u>486</u>	<u>486</u>	<u>486</u>
Increase for New Classes	-	24	19	27	18	0	0
Replacements ^{1/}	<u>-</u>	<u>20</u>	<u>21</u>	<u>22</u>	<u>23</u>	<u>24</u>	<u>24</u>
Recruitment Needs	<u>-</u>	<u>44</u>	<u>40</u>	<u>49</u>	<u>41</u>	<u>24</u>	<u>24</u>

Resources

Degree Teachers (Expatriates)	22	0	0	0	0	0	0
Non-Degree Teachers (Locally Trained)	<u>22</u>	<u>77</u>	<u>170</u>	<u>240</u>	<u>240</u>	<u>240</u>	<u>240</u>
Total Available		<u>44</u>	<u>77</u>	<u>170</u>	<u>240</u>	<u>240</u>	<u>240</u>

Disposition

Available to Replace Degree Teachers ^{2/}	0	37	121	199	216	215	
Degree Teachers to be Replaced by Non-Degree Teachers	<u>0</u>	<u>37</u>	<u>94</u>	<u>138</u>	<u>29</u>	<u>0</u>	
Balance ^{3/}	<u>-</u>	<u>-</u>	<u>27</u>	<u>61</u>	<u>187</u>	<u>216</u>	

* Under the table of organization, non-degree teachers are posted to Forms 1 and 2, degree teachers to Forms 3 through 6.

^{1/} Estimated at 5% per year for death, retirement, etc.

^{2/} After filling posts required for new classes and replacements for turnover.

^{3/} These numbers of non-degree teachers will be assigned to primary school posts.

ACTUAL AND ESTIMATED SOURCES OF FUNDS FOR EXPENDITURE
ON EDUCATION SERVICES IN TANGANYIKA

	<u>Fiscal 1962</u>	<u>Fiscal 1963</u>	<u>Fiscal 1964</u>
1. <u>CAPITAL EXPENDITURE</u>	<u>£000</u>	<u>£000</u>	<u>£000</u>
A. <u>Government Expenditures</u>			
Grants from British Govt. ^{1/}	819.5	360	429
Loans from British Govt.	-	-	1
Grants from U.S. Govt. (A.I.D.) ^{2/}	3	27	17
Loans from U.S. Govt. (A.I.D.)	-	-	338
Credit from IDA	-	490	415
Local Donation	-	1	4
Local Funds ^{3/}	<u>213.5</u>	<u>192</u>	<u>294</u>
Total Government Expenditure	<u>1,036</u>	<u>1,070</u>	<u>1,498</u>
B. <u>University College, Dar es Salaam</u>			
Karimjee Trust	59	-	-
Ford Foundation Grant	-	150	150
Gift by Aga Khan Foundation	-	-	<u>54</u>
Total	<u>59</u>	<u>150</u>	<u>204</u>
C. <u>Education Authorities Taxes and Fees</u>	<u>200</u>	<u>195</u>	<u>195</u>
D. <u>Voluntary Agencies</u> ^{4/}	<u>200</u>	<u>200</u>	<u>200</u>
<u>Summary of Capital Expenditure</u>			
British Government Grants and Loans	819.5	360	430
U.S. Government Grants and Loans	3	27	355
IDA Loan	-	490	415
Ford Foundation Grant	-	150	150
Aga Khan Foundation	-	-	54
Local Donations	59	1	4
Local Authority Sources	200	195	195
Voluntary Agency Sources	200	200	200
Government Taxation, Loans, etc.	<u>213.5</u>	<u>192</u>	<u>294</u>
Total	<u>1,495</u>	<u>1,615</u>	<u>2,097</u>

Notes:

- 1/ The grants from the British Government are Commonwealth Development and Welfare grants prior to Independence and Commonwealth and Special Grants made since Independence. The loan from the British Government refers to the Commonwealth Assistance Loan.
- 2/ The A.I.D. grants from the U.S. Government are for work at Mpwapwa and Butimba Teacher Training Colleges and planning of Changombe Teacher Training College at Dar es Salaam. The A.I.D. loans are for construction at the Changombe Teacher Training College and the Dar es Salaam University College, and others.
- 3/ Reliable figures for capital expenditure by Local Authorities are not available but it is estimated that they spent from their own funds, excluding Government capital grants-in-aid, about £205,000 in the calendar year 1961 and rather less in subsequent years.
- 4/ Reliable statistics for capital expenditure by Voluntary Agencies from their own resources are not available. It is estimated at £200,000, from funds available to the Voluntary Agencies, from donations from external sources or from funds provided by members of the denomination concerned.

	<u>Fiscal 1962</u>	<u>Fiscal 1963</u>	<u>Fiscal 1964</u>
II. <u>RECURRENT EXPENDITURE</u>	<u>£000</u>	<u>£000</u>	<u>£000</u>
A. <u>Government Expenditure</u>			
Grants from British Govt. ^{1/}	5	129	-
Ford Foundation Grant ^{2/}	7.5	11.5	15
Higher Education Trust Fund Board ^{3/}	27	51	30
Fees at Government Schools ^{4/}	229.5	224	132
Miscellaneous Receipts for Specific Services (e.g., examination fees)	5	7.5	28
Central Government Revenue	<u>4,168.5</u>	<u>4,468</u>	<u>5,086</u>
Total	<u>4,442.5</u>	<u>4,891</u>	<u>5,291</u>
B. <u>Local Authority Expenditure</u>			
Fees at Local Authority Schools	155	150	155
Local Taxation	<u>815</u>	<u>870</u>	<u>920</u>
Total	<u>970</u>	<u>1,020</u>	<u>1,075</u>
C. <u>Voluntary Agencies</u>			
Fees at Voluntary Agency Schools	550	530	470
Mission and Community Sources	<u>320</u>	<u>370</u>	<u>370</u>
Total	<u>870</u>	<u>900</u>	<u>840</u>
D. <u>Summary of Recurrent Expenditure</u>			
External Grants	12.5	140.5	15
Higher Education Trust Fund	27	51	30
Miscellaneous Receipts	5	7.5	28
School Fees	934.5	904	757
Mission and Community Sources	320	370	370
Central Government Revenue	4,168.5	4,468	5,086
Local Government Taxation	<u>815</u>	<u>870</u>	<u>920</u>
Overall Total	<u>6,282.5</u>	<u>6,811</u>	<u>7,206</u>

Notes:

- 1/ The grants from the British Government are a special grant from the Department of Technical Co-operation and a Commonwealth Grant of £129,000 in 1962-63 towards the recurrent costs of the expansion of secondary education.
- 2/ The Ford Foundation grant was for the secondary technical course at the Dar es Salaam Technical College.
- 3/ The Higher Education Trust Fund which derived its funds from local donations contributed to the cost of overseas bursaries.
- 4/ The figures for fees allow for the abolition of fees at secondary schools in 1964.

Source: Ministry of Education

RECURRENT COSTS OF SECONDARY EDUCATION

Actual 1962, estimated thereafter -

£000

	Actual Expenditure 1962 Jan. - June only.	Fiscal 1963	Fiscal 1964	<u>Estimated Expenditure</u>		
				Fiscal 1965	Fiscal 1966	Fiscal 1967
<u>Government.</u> ^{1/}						
Gross expenditure ^{3/}	594	1,270 ^{2/}	1,484	1,738	1,840	1,889
LESS fees paid in ^{4/} Government secondary schools.	64.5	105	35	-	-	-
Net expenditure	529.5	1,165	1,449	1,738	1,840	1,889
<u>Voluntary Agencies.</u>						
Gross expenditure	94	200	95	54	58	60
LESS fees paid in Voluntary Agency secondary schools.	67.5	147	45	-	-	-
Net expenditure	26.5	53	50	54	58	60
<u>Summary.</u>						
Overall <u>gross</u> ^{5/} expenditure.	688	1,470	1,579	1,792	1,898	1,949
LESS fees paid.	132	252	80	-	-	-
Overall <u>net</u> expenditure.	556	1,218	1,499	1,792	1,898	1,949

Notes:-

- 1/ Government already meets over 95% of the net costs of secondary education and it is anticipated that its share of these costs will tend to increase over the next few years.
- 2/ In 1962/63 £129,000 was contributed to the recurrent estimates of secondary education from the development estimates and is met from the Special Grant made by the British Government towards the development programme. With this exception the net Government expenditure shown is met from the ordinary revenue of the territory, i.e., from taxation.
- 3/ All expenditure figures are "local", i.e., the overseas addition paid to expatriate officers is not included. This addition is met by external Governments and is affected by factors outside the control of the Tanganyika Government (in particular salary levels in the supplying country). Expenditure by external Governments on this form of aid is estimated to rise from about £130,000 in the year 1963/64 to a total of not less than £200,000 in 1966/67.
- 4/ Fees had been £ 24 for tuition and £ 24 additional for boarding, per pupil.
- 5/ The average per annum recurrent cost per pupil is:

	<u>Day School</u>	<u>Boarding School</u>
Forms 1-4	£ 66	£ 95
" 5-6	131	160

Source: Ministry of Education.

TANGANYIKA SCHOOL SYSTEMEnrollments by Classes, Related to Population by Age-Group ^{1/}1960-1962 Actual1963-1968 Estimated

Year	<u>Standard I (7-8 years)*</u>		<u>Standard IV (10-11 years)*</u>	
	<u>No. Enrolled</u>	<u>Percentage Enrollment</u>	<u>No. Enrolled</u>	<u>Percentage Enrollment</u>
1960	117,344	47	88,434	40
1961	120,786	48	96,901	43
1962	125,521	49	98,139	42
1963	126,000*	49	105,000*	45
1964	128,000*	48	113,000*	47
1965	130,000*	48	117,000*	48
1966	132,000*	48	119,000*	48
1967	134,000*	48	121,000*	48
1968	136,000*	48	124,000*	48

Year	<u>Standard V (11-12 years)*</u>		<u>Standard VIII (14-15 years)*</u>	
	<u>No. Enrolled</u>	<u>Percentage Enrollment</u>	<u>No. Enrolled</u>	<u>Percentage Enrollment</u>
1960	17,689	8.1	10,022	5.5
1961	21,110	9.6	11,653	5.7
1962	26,803	12	14,802	7.1
1963	30,000*	13	15,000*	7.1
1964	35,000*	15	18,000*	8.3
1965	37,000*	16	19,000*	8.7
1966	38,000*	16	22,000*	9.9
1967	39,000*	16	23,000*	10
1968	40,000*	16	25,000*	11

Year	<u>Form 1 (15-16 years)*</u>		<u>Form 2 (16-17 years)*</u>	
	<u>No. Enrolled</u>	<u>Percentage Enrollment</u>	<u>No. Enrolled</u>	<u>Percentage Enrollment</u>
1960	3,346	1.7	2,976	1.6
1961	3,984	2.1	3,285	1.7
1962	4,810	2.4	3,982	2.0
1963**	5,075	2.5	4,970	2.5
1964**	5,250	2.5	5,040	2.5
1965**	5,670	2.6	5,250	2.5
1966**	5,670	2.6	5,670	2.7
1967**	5,670	2.6	5,670	2.6
1968**	5,670	2.5	5,670	2.6

^{1/} The actual age-range of pupils in the various classes may cover more than two years in each case.

* Estimated

** From 1963 onwards, number of school places and not pupils enrolled are shown.

<u>Year</u>	<u>Form 3 (17-18 years)*</u>		<u>Form 4 (18-19 years)*</u>	
	<u>No. Enrolled</u>	<u>Percentage Enrollment</u>	<u>No. Enrolled</u>	<u>Percentage Enrollment</u>
1960	1,149	0.75	1,251	0.68
1961	1,955	1.0	1,579	0.84
1962	2,908	1.5	1,990	1.05
1963**	4,165	2.1	3,360	1.7
1964**	4,900	2.4	4,075	2.1
1965**	5,040	2.5	4,900	2.5
1966**	5,250	2.5	5,040	2.5
1967**	5,670	2.7	5,250	2.5
1968**	5,670	2.6	5,670	2.7

<u>Year</u>	<u>Form 5 (19-20 years)*</u>		<u>Form 6 (20-21 years)*</u>	
	<u>No. Enrolled</u>	<u>Percentage Enrollment</u>	<u>No. Enrolled</u>	<u>Percentage Enrollment</u>
1960	111	0.062	84	0.048
1961	220	0.12	171	0.095
1962	286	0.15	199	0.11
1963**	520	0.27	380	0.21
1964**	680	0.35	520	0.27
1965**	800	0.41	680	0.35
1966**	800	0.4	800	0.41
1967**	800	0.39	800	0.4
1968**	800	0.39	800	0.4

* Estimated

** From 1963 onwards, number of school places and not pupils enrolled are shown.

Source: Ministry of Education

Summary of Future High Level Manpower Requirements by Occupation, 1962-1967

<u>Occupational Group</u>	<u>March 1962</u>	<u>Net Additions in 5 years</u>	<u>Replace- ments</u>	<u>Gross Additions</u>	<u>Per Cent of Present</u>
<u>Grand Total</u>	<u>9,330</u>	<u>3,815</u>	<u>4,235</u>	<u>8,050</u>	<u>86</u>
<u>Administrative and Professional - Total</u>	<u>5,620</u>	<u>2,570</u>	<u>3,030</u>	<u>5,606</u>	<u>99</u>
Engineers	390	180	210	390	100
Scientists	785	460	435	895	114
Medical	1,100	580	675	1,255	113
Teachers	1,270	675	710	1,385	109
Other Professions	510	290	200	490	96
Administrative	1,560	385	800	1,185	75
<u>Crafts - Total</u>	<u>3,710</u>	<u>1,245</u>	<u>1,205</u>	<u>2,455</u>	<u>65</u>
Mining	25	10	10	20	86
Transport & Communications	175	80	70	150	86
Textiles	45	-	10	10	20
Metal Working	1,710	710	600	1,310	76
Electrical	485	200	175	375	77
Construction	1,150	180	315	495	42
Food and Chemical	30	10	0	15	44
Miscellaneous	100	55	25	80	80

Source: "Survey of High Level Manpower Requirements", Tanganyika, 1962.

N.B. Figures Rounded.

Requirements for Students Completing Forms IV. 1962-1967in Government Training Institutes

<u>Employment/Further Education/ Training</u>	<u>1962</u>		<u>Requirement</u>				
	<u>Require- ment</u>	<u>Alloca- tion</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>	<u>1966</u>	<u>1967</u>
Form 5 ^{1/}	420	420	520	680	800	800	800
Teacher Training, Grade A	213	150	198	175	240	240	240
Teacher Training, Grade B	150	150	160	160 ^{3/}	200 ^{3/}	200 ^{3/}	200
Vice President's Office	-	2	-	-	-	-	-
Home Affairs (Police)	-	10	21	18	18	13	13
Agriculture	365	60	340	340	340	340	340
Communications, Power & Works	17	5	41	37	36	35	23
Health	35 ^{2/}	27	85	85	85	85	85
Co-operatives & Development	100	31	100	100	75	75	75
Common Cadres	50 ^{2/}	-	200	250	250	250	250
E.A.C.S.O. ^{4/}	33	10	33 ^{3/}	33 ^{3/}	33 ^{3/}	33 ^{3/}	33
E.A.R. & H. ^{5/}	21	8	60	60	60	60	60
E.A.P.T.A. ^{6/}	68	20	68 ^{3/}	68 ^{3/}	68 ^{3/}	68 ^{3/}	68
T.B.C. ^{7/}	12	5	12	12	12	12	12
Army	6	5	12	12	12	12	12
Lands and Forests	47	25	44	38	33	27	17
Commerce and Industry	-	-	18	8	8	8	8
Labour	25	3	15	15	5	5	5
National Culture and Youth	-	-	6	6	6	6	6
Treasury	-	-	2	4	4	4	4
Audit	-	-	2	2	2	1	1
Pre-Service Technical Assts.	15	15	60	60	60	60	60
Pre-Service Secretarial	25	25	40	40	40	40	40
Pre-Service Accountancy	30	25	25	25	25	25	25
Miscellaneous	8	2	8	8	8	8	8
Totals	<u>1,640</u>	<u>998</u>	<u>2,070</u>	<u>2,236</u>	<u>2,420</u>	<u>2,407</u>	<u>2,383</u>

^{1/} First priority.^{2/} Token figure. Need much greater than stated requirement.^{3/} Estimate.^{4/} East Africa Common Services Organization.^{5/} East Africa Railways and Harbours.^{6/} East Africa Post and Telegraph Administration.^{7/} Tanganyika Broadcasting Company.

Note: Yearly figures shown depend on previous year's requirement being met. Any deficit must be carried forward.

ADDITIONS TO TANGANYIKA SECONDARY SCHOOL SYSTEM

	<u>No. of Additional Classes Provided</u>		<u>No. of Additional Places</u>
I. <u>INCLUDED IN IDA CREDIT APPLICATION</u>		<u>Day</u>	<u>Boarding</u>
<u>Category A</u>			
Improving facilities, completing streams, and adding streams in 27 schools:			
i) <u>Government Boarding Schools</u>			
1. Mzumbe	6	-	210
2. Bwiru Boys	1	-	35
3. Nyakato	5	-	175
4. Old Moshi	-	-	-
5. Songea	5	-	175
6. Mwapwa	1	-	35
7. Mkwawa	5	-	80
8. Tabora Girls	<u>1</u>	<u>-</u>	<u>20</u>
	24	-	570
ii) <u>Government Day Schools</u>			
9. Karimjee	4	125	-
iii) <u>Voluntary Agencies Boarding Schools</u>			
10. Ihungu	3	-	75
11. Tosamaganga	5	-	115
12. Umbwe	1	-	35
13. Ndanda	5	-	115
14. Kwirow	1	-	35
15. Nsumba	1	-	35
16. St. Francis, Fugu	-	-	-
17. Rosary Girls	5	-	175
18. Marian	-	-	-
19. St. Andrews, Minaki	2	-	70
20. Il Boru	5	-	115
21. Alliance, Dodoma	4	-	140
22. St. Joseph's, Chidya	1	-	35
23. Kahororo	2	-	70
24. Alliance, Musoma	3	-	105
25. Loleza Girls	<u>5</u>	<u>-</u>	<u>175</u>
	43	-	1,295

	No. of Additional Classes Provided	No. of Additional Places		
		Day	Boarding	
iv) <u>Voluntary Agencies Day Schools</u>				
26. Aga Khan Boys, DSM	4	110	-	
27. Aga Khan Girls, DSM	<u>-1</u>	<u>-35</u>	<u>-</u>	
	3	75	-	
<u>Total Category A</u>	74	200	1,865	£ 710,000

Category B

Construction of two new government
boarding schools:

1. Kideleko/Tanga	7	-	245 ^{1/}	
2. Shinyanga	<u>16</u>	<u>-</u>	<u>500</u>	
<u>Total Category B</u>	23	-	745	£ 400,000

Category C

Completing seven voluntary agency
boarding schools:

1. St. Mary's, Tabora	1	-	35	
2. Musoma	5	-	175	
3. Bihawana	5	-	175	
4. Assumpta Girls	7	-	245	
5. Livingstone	6	-	210	
6. Magamba	6	-	210	
7. Msalato Girls	<u>6</u>	<u>-</u>	<u>210</u>	
<u>Total Category C</u>	36	-	1,260	£ 345,000

1/ Net additions - The present enrollments at three other temporary schools will be transferred to the new structure, making a total enrollment of 540.

	<u>No. of Additional Classes Provided</u>	<u>No. of Additional Places</u>	
		<u>Day</u>	<u>Boarding</u>
<u>Category D</u>			
Adding boarding facilities for about 1,200 rural pupils at nine day schools:			
i) <u>Government</u>			
1. Azania, DSM*	-1	-235	200
2. Mawenzi	6	60	150
3. Kazima	6	60	150
4. Dodoma	4	40	100
5. Arusha	1	-65	100
6. Mbeya Town	4	40	100
7. Jangwani Girls, DSM	<u>5</u>	<u>-35</u>	<u>150</u>
	25	-135	950
ii) <u>Voluntary Agencies</u>			
8. Chopra, Mwanza	3	-45	150
9. Grewel, Bukoba	<u>3</u>	<u>5</u>	<u>100</u>
	6	-40	250
<u>Total Category D</u>	31	-175	1,200
			£230,000

Category E

Converting ten primary schools and teacher colleges into secondary schools:

i) <u>Government</u>			
1. Mbeya	8	-	280
2. Machame Girls	3	-	105
3. Ewiru Girls	5	-	175
4. Mtwara Girls	6	-	210
5. Same Boys	<u>8</u>	<u>-</u>	<u>280</u>
	30	-	1,050

	No. of Additional Classes Provided	No. of Additional Places		
		Day	Boarding	
ii) <u>Voluntary Agencies</u>				
6. Kigonsera	5	-	175	
7. Alliance, Rungwe	5	-	175	
8. Ashira Girls	6	-	210	
9. Aga Khan, Iringa	4	-	140	
10. Aga Khan, Morogoro	<u>-</u>	<u>-</u>	<u>-</u>	
	20	-	700	
<u>Total Category E</u>	50	-	1,750	£ 265,000

Total Categories A-E

55 schools	214	25	6,820	£1,950,000
IDA Application Net Additional Places			6,845	

II. ADDITIONS BEING PROVIDED AT SCHOOLS
NOT IN IDA APPLICATION

i) Government Boarding Schools

1. Iyamungo	5	-	175	
2. Tabora Boys	-	-	-	
3. Malangali	-	-	-	
4. Ifunda	<u>16</u>	<u>-</u>	<u>560</u>	
Total	21	-	735	

ii) Government Day Schools

5. Lindi	4	140	-	
6. Dar es Salaam Tech. College	<u>-2</u>	<u>-70</u>	<u>-</u>	
Total	2	70	-	

	<u>No. of Additional Classes Provided</u>	<u>No. of Additional Places</u>	
		<u>Day</u>	<u>Boarding</u>
iii) <u>Voluntary Agencies Day Schools</u>			
7. St. Joseph's, DSM	5	175	-
8. St. Xavier's, DSM	1	35	-
9. D.A. Girls	=	=	=
Total	6	210	-
iv) <u>Schools being provided by External Resources not related to Proposed IDA Credit</u>			
10. Gallanos Trust	8	-	280
11. Kibala (Nordic Council)	<u>16</u>	<u>-</u>	<u>500</u>
Total	24	-	780
Non-IDA Total	53	280	1,515
Non-IDA Total Additional Places			1,795
Total Country-Wide Additions	267	305	8,335
Total Additional Places			8,640

*

SUMMARY OF SECONDARY SCHOOL EXPANSION

	<u>1962</u>	<u>1963</u>
No. of classes	461	728
No. of complete streams	65	162
Intake of students into Form 1	4,810	5,670
Intake as percentage of age group (15-16)	2.4%	2.5%
Total capacity, Forms 1-6	15,640	24,280 ^{1/}
	(Day = 6,795	(Day = 7,300
	(Boarding = 8,845	(Boarding = 16,980
Enrollment Form 4	1,990	5,670
Enrollment at Form 4 as percentage of enrollment Forms 1-4	14.5%	25%
Output as percentage of age group (15-19)	0.25%	0.64%
Teaching posts	707	1,112

Cost of expansion of schools in IDA Project: ^{1/}

Net cost of expansion	£1,950,000
Contingency allowance	200,000
Total capital expenditure	2,150,000
Proposed local participation (23%)	500,000
Proposed IDA participation (77%)	1,650,000

^{1/} The places to be created in the expansion program shown above include two secondary schools being built by the Nordic Council and the Gallanos Family Trust without cost to the government. The first will provide a three-stream, Forms 1-4, plus one-stream, Forms 5 and 6 school. The second will provide a two-stream, Forms 1-4 school. Together they will provide places for 780 pupils. In addition, 1,015 places are being provided by converting Ifunda to a secondary technical school in the new Iyamunga school and from modifications being made to other schools independently of the project. Cf. Annex 9.

COMPARATIVE COSTS OF SCHOOL CONSTRUCTION

1. There is no hard and fast scale by which to compare costs of school buildings in various countries. This difficulty is not unique to school buildings - it applies to any other kind of construction.

"Overall comparisons of building costs in two different countries tend to be misleading because of national differences in the end products, in the proportions in which the various sorts of buildings are produced and in the complex of prices for labour and materials. Price data suitable for making international comparisons are difficult to obtain; the difficulty increases with the amount of detail required." 1/

2. Even within a given country, costs of school buildings may vary considerably. The following table of secondary day schools in the U. S. is taken from: High Schools 1962, a Report from Educational Facilities Laboratories, New York:

<u>School</u>	<u>Capacity</u>	<u>Area/sq. ft.</u>	<u>Cost/ Bldg. Alone</u>	<u>Cost/ Sq. ft.</u>	<u>Cost/ Pupil</u>	<u>Air Conditionin</u>
Andrews Senior H.S.**	1,180	194,593	\$2,672,100	\$13.73	\$2,265	Yes
Blackwell H.S.	600	53,177	717,454	13.49	1,196	Part now/ rest futura.
W. E. Boswell H.S.	509	54,661	730,797	13.37	1,436	Partial
Cold Spring Harbor Sr. H.S.	800	108,424	1,893,916	17.47	2,367	Future
C. E. Donart H.S.	800	60,636	788,946	13.01	986	Future
Lamphere Senior H.S.	800	117,043	1,505,000	12.86	1,881	No
South Park H.S.	1,200	99,906	1,198,100	11.99	998	Yes
Ridgewood H.S.	1,040	140,117	1,856,558	13.25	1,785	No
McPherson H.S.	1,100	112,472	1,326,986*	11.80	1,206	Yes
Wayland Senior H.S.	850	110,376	1,580,412	14.32	1,859	No
Flainview Jr. H.S.	2,200	201,081	3,720,000	18.50	1,691	Future

* Includes \$159,999 for equipment and \$40,153 for kitchen equipment.

** H.S. stands for High School in this table.

"The overall average cost of the schools discussed in this report is \$13.95 per square foot. The report concludes that none of these is an exorbitant schoolhouse for its region. Andrews, (one of the higher cost schools) too, is economical in relation to educational productivity per dollar."

1/ United Kingdom Dept. of Scientific and Industrial Research, Building Research Station: "International Comparison of Building Costs with Particular Reference to U.S.A. and Great Britain, 1960."

3. Admitting all of the imponderables and the difficulty of arriving at a truly meaningful cost per square foot or cost per pupil figure, it is possible to make very rough comparisons between schools. However, such comparisons are useful only in a very general way, to help make judgments whether or not one school is remarkably economical or uncommonly expensive. A professional and more precise assessment of the cost of a school building can be made only against a great variety of specific conditions for a given school building in a given country at a given time for a given type and educational level of school.

4. The following data of costs for secondary school buildings are taken from various sources. They cannot do more than illustrate an order of magnitude and ought to be used with the above-mentioned reservations in mind.

U.K.

1. Harold Hill Grammar School (Day School)
Capacity: 612, Cost per sq. ft. \$9.97. Cost per pupil \$723.
2. St. Anne's R. C. Secondary Modern School (Day School)
Capacity: 510, Cost per sq. ft. \$9.77. Cost per pupil \$717.

The two samples of school building costs are fairly representative for the United Kingdom. The present average cost for new school buildings does not exceed 75 shillings, i.e. \$10.5 per square foot and £290, i.e. \$812 per pupil.

U.S.

Cost for school buildings in the United States are of a wide range (see table in para. 2). Variation in area per pupil is as great a factor as variation in cost per square foot in accounting for contrasts between the costs of schools. Thus, comparison of costs per pupil cannot be made without comparison of area per pupil, standard of construction, amenities supplied, etc. According to a survey made in 1959, the median cost of 72 high schools (day schools) scattered throughout the U.S. was \$15.99 per square foot.

Tunisia

The following data are based on cost estimates for secondary boarding schools which are now under construction:

- (1) Lycee de Jeunes Filles, Ballia Parc
Capacity: 700, of which 600 are boarders
Average cost per pupil: \$1,870
- (2) College Moyen et Secondaire, Grombalia
Capacity: 980, of which 540 are boarders
Average cost per pupil: \$971
- (3) College Moyen et Secondaire Medjez-el-Bab
Capacity: 945, of which 300 are boarders
Average cost per pupil: \$1,133.